THE

ONTARIO WATER RESOURCES

COMMISSION

# WATER POLLUTION SURVEY

# POLICE VILLAGE OF LAMBETH

# COUNTY OF MIDDLESEX

1964

Report on

# WATER POLLUTION SURVEY

POLICE VILLAGE OF LAMBETH
TOWNSHIP OF WESTMINSTER

County of Middlesex

September 1964

The Division of Sanitary Engineering

A water pollution survey was made of the surface water drains of the Police Village of Lambeth in the Township of Westminster on August 5, 1964. The necessary information was obtained previously by Mr.B.G. Samuel, C.S.I.(C), during the water pollution survey made in the Municipality of London and completed in February 1964.

GENERAL

The Police Village of Lambeth has a population of 2,407 (Municipal Directory, 1964).

Septic tanks are used in most of the village for treatment of domestic sewage. The newly developed "Calwood" subdivision is served by two parallel "package" sewage treatment plants with a total capacity of 70,000 U.S. gallons per day. The effluent from these plants discharge to an open storm water drainage ditch.

Surface water drainage of the village is provided by five storm water drains discharging to Dingman Creek. The Department of Highways runoff drains to Dingman Creek at the Highway No. 2 bridge, had no flow at the time of the inspection.

Three to four days before the inspection was made there was a heavy rainfall in the London area (about two to three inches) resulting in greater than usual flows in Dingman Creek and East Creek.

## SAMPLING

Samples were collected from the outfalls of the five storm water drains and creek samples were collected above and below these drain outfalls when possible.

The sampling points are indicated on the appended map.

## WATER QUALITY OBJECTIVES

The OWRC objectives in the Province of Ontario for surface water drains and sewage treatment plant effluents entering watercourses are as follows.

(1) Five-Day Biochemical Oxygen Demand (5-Day BOD) - not greater than 15 parts per million (ppm).

(2) Suspended Solids - not greater than 15 parts per million (ppm).

(3) The presence of Anionic Detergents (as ABS) is indicative of pollution from domestic sources.

The OWRC water quality objectives for all watercourses in the Province of Ontario are as follows.

(1) Five-Day Biochemical Oxygen Demand (5-Day BOD) - not greater than 4 parts per million (ppm).

(2) Coliforms per 100 milliliters by the Membrane Filter Method (M.F.) - not greater than 2,400 coliforms.

(3) The presence of Anionic Detergents (as ABS) is indicative of pollution from domestic sources.

## DISCUSSION OF SAMPLE RESULTS

The following are the results and evaluation of the samples collected during the water pollution survey.

DENNIS STREET DITCH

| Location | 5-Day BOD (ppm) | Solids Total (ppm) | Solids Susp. (ppm) | Solids Diss. (ppm) | Anionic Detergents as ABS (ppm) | Coliforms per 100 ml (Membrane Filter) |
|---|---|---|---|---|---|---|
| Above S.T.P. | 1.0 | 602 | 4 | 598 | 0.1 | 39,000 |
| S.T.P.Effluent | 24 | 694 | 63 | 631 | 7.0 | 630,000 |
| Below S.T.P. | 5.7 | 624 | 23 | 601 | 2.6 | 69,000 |

These results indicate that the Dennis Street Ditch is not contaminated with domestic wastes. The results of the sewage treatment plant (S.T.P.) show that the effluent did not meet the OWRC objectives during the time of the inspection. These results were to be expected because the newly installed 35,000 U.S. gpd "package" plant was not yet in proper operation.

EAST CREEK

| Mileage Point | Description | 5-Day BOD (ppm) | Solids Total (ppm) | Solids Susp. (ppm) | Solids Diss. (ppm) | Anionic Detergents as ABS (ppm) | Coliforms per 100 ml (Membrane Filter) |
|---|---|---|---|---|---|---|---|
| TDEE-127.4 | East Branch East Creek | 6.4 | 700 | 65 | 645 | 0.3 | 190,000 |
| TDEW-127.4 | West Branch East Creek | 3.2 | 538 | 5 | 533 | 1.5 | 110,000 |
| TDEW-127.3 -W | Main St.East drain outfall | 4.4 | 668 | 11 | 657 | 1.2 | 2,300,000 |
| TDE-127.0 -T & W | Dennis St. drain outfall | 5.7 | 624 | 23 | 601 | 2.6 | 69,000 |
| TDE-126.8 -W | Field Rd. drain outfall | 0.6 | 412 | 28 | 384 | 0 | 4,700 |
| TDE-126.5 | Down stream of Field Rd. | 4.4 | 716 | 63 | 653 | 0.9 | 230,000 |

The aforementioned results indicate that domestic sewage is entering the Main Street east drain. Both the Anionic Detergent content and the coliform count were significant at this outfall. This pollution of the creek is probably the result of connections from septic tanks to the storm water drain. These connections should be located and eliminated.

The Dennis Street drain did not meet the OWRC objectives at the time of inspection because of the sewage treatment plant's recent enlargement as previously mentioned.

The Field Road drain discharge was generally satisfactory at this time.

The East Creek showed a slight deterioration of water quality largely as a result of the discharge from the Main Street east drain, which had a much greater flow than the Dennis Street drain.

DINGMAN CREEK

| Mileage Point | Location | 5-Day BOD (ppm) | Solids Total (ppm) | Solids Susp. (ppm) | Solids Diss. (ppm) | Anionic Detergents as ABS (ppm) | Coliforms per 100 ml (Membrane Filter) |
|---|---|---|---|---|---|---|---|
| TD-126.4 | Dingman Creek above Lambeth | 2.1 | 664 | 75 | 589 | 0.0 | 2,600 |
| TD-124.3 | Dingman Creek at Highway No.4 bridge | 2.1 | 564 | 85 | 479 | 0.0 | 3,000 |

DINGMAN CREEK CONT'D

| Mileage Point | Location | 5-Day BOD (ppm) | Solids Total (ppm) | Solids Susp. (ppm) | Solids Diss. (ppm) | Anionic Detergents as ABS (ppm) | Coliforms per 100 ml (Membrane Filter |
|---|---|---|---|---|---|---|---|
| TD-123.1 -W | Main St. West drain outfall | 0.7 | 492 | 8 | 484 | 0.0 | 3,100 |
| TD-123.0 | Dingman Cr. at Hwy.#2 bridge | 1.6 | 626 | 80 | 546 | 0.0 | 2,100 |
| TDA-122.4 | Water-course below Anguish drain | 2.0 | 414 | 54 | 460 | 1.1 | 56,000 |
| TD-122.4 | Dingman Cr. below Lambeth | 2.0 | 516 | 42 | 474 | 0.0 | 3,700 |

These results indicate that at the time of the inspection the Main Street west drain was discharging a satisfactory effluent to the creek.

The Anguish drain outfall could not be located due to dense brush growth around the outfall. The watercourse into which the drain discharges was dry except below the approximate location of the outfall. The sample taken about 200 feet down stream was hence assumed to be almost entirely due to the flow from the Anguish drain. The results indicate that the Anguish drain discharges domestic wastes to the creek and is a source of pollution to the Dingman Creek. The domestic wastes probably result from connections of septic tanks to the storm water drains. These connections should be located and eliminated.

The Dingman Creek showed a slight deterioration of water quality as it flowed through the Police Village of Lambeth. The relatively high flows from rain runoff provided a great dilution factor, and under normal low summer flows the pollution effects of the village would be substantially greater.

SUMMARY

A water pollution survey was made of the Police Village of Lambeth in the Township of Westminster on August 5, 1964.

The sample results showed that pollution results in Dingman Creek due to the discharge of untreated or inadequately treated domestic wastes to surface water drains.

These sources of pollution should be located and eliminated either by providing satisfactory individual systems or a municipal sewage collection and treatment works.

If Lambeth is to continue to grow as a residential village because of its proximity to London, serious consideration should be given to installing a sewage treatment plant in order to enhance its position as a desirable residential community.

RECOMMENDATIONS

(1) The septic tanks and private waste water drains connected to the surface water drains should be located and disconnected.

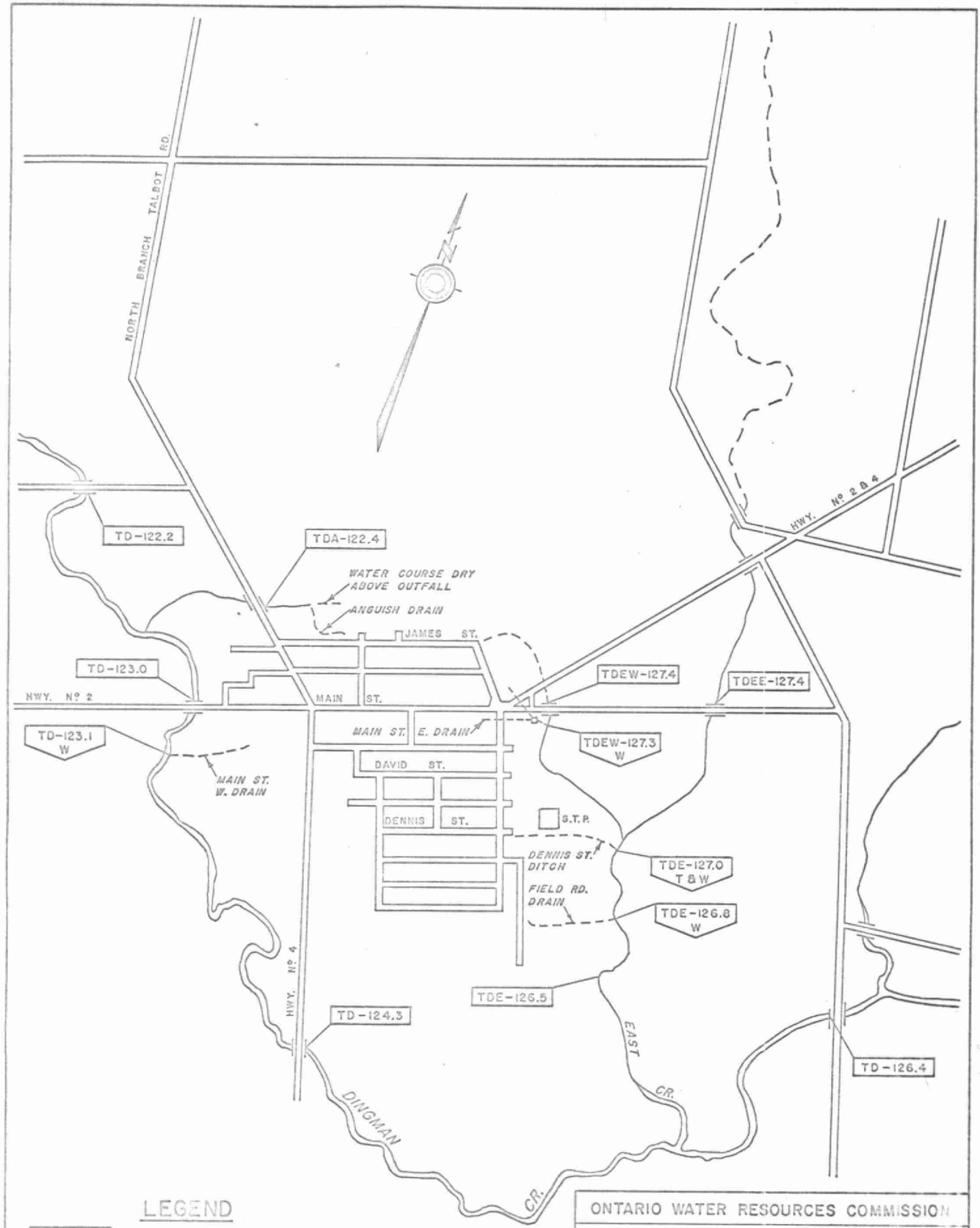
(2) Serious consideration should be given to providing a municipal sewage treatment plant in the Police Village of Lambeth in order to enhance its position as a residential community.

All of which is respectfully submitted,

District Engineer C.E. McIntyre
C.E. McIntyre

Approved by K.H. Sharpe
K.H. Sharpe, Director.

elb




## LEGEND

TD-124.3 — SAMPLING POINT SHOWING STREAM AND MILEAGE

TD-126.4 W — STREAM AND MILEAGE AT OUTFALL — TYPE OF OUTFALL

OUTFALL SYMBOL LETTERS

W — STORM SEWER OR DITCH
T — SEWAGE TREATMENT PLANT

ONTARIO WATER RESOURCES COMMISSION

# POLICE VILLAGE OF LAMBETH

## WATER POLLUTION SURVEY

| | |
|---|---|
| SCALE: 0 1/10 1/5 3/10 2/5 1/2 MILES | |
| DRAWN BY: A.R.S. | DATE: OCT., 1964 |
| CHECKED BY: | DRAWING Nº: 64-81 |